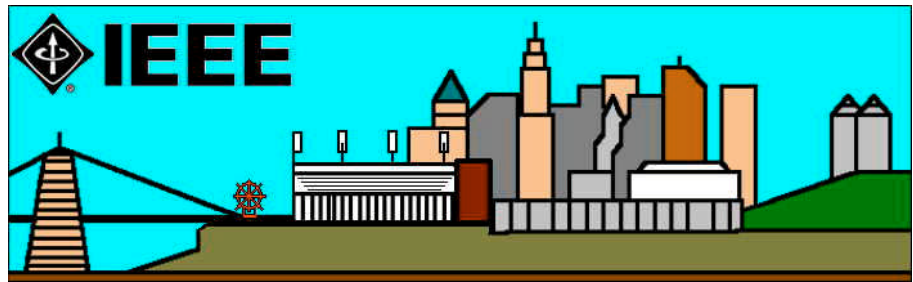


IEEE CINCINNATI
SECTION
NEWSLETTER
OCTOBER 2006



OCTOBER MEETING
RADIO FREQUENCY IDENTIFICATION TAGS:
THE GOOD, THE BAD, AND THE UGLY.

DATE: Thursday, October 26, 2006

PLACE : Raffel's – 10160 Reading Road (see below for directions)

TIME : 5:30 p.m. to 7:00 p.m. - Social Time/Dinner
7:00 p.m. to 8:30 p.m. - Program

COST FOR DINNER: \$10.00 for Student Members
\$15.00 for Members
\$20.00 for Non-Members

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Baked Cod with Crab Topping, Hot Sliced Roast Beef in Gravy, Roasted Pork Loin with Dressing, Rice Pilaf, Red Skinned Mashed Potatoes, Vegetable Medley, Tossed Salad, Dinner Rolls and Butter, Assorted Cakes, Coffee, Tea Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

Please call the Cincinnati Section Voice Mailbox at **513-629-9380**, by **Noon, Tuesday, October 24, 2006** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number. You can also make a reservation by e-mailing our Arrangements Chair, Charlie Nash, at cnash@ieee.org.

PE CREDITS: Depending on the subject matter, attendance at IEEE Cincinnati Section Meetings now qualifies the attendee for Professional Development Hours towards renewal of Professional Engineers Licenses. Required documentation will be available following the meeting! The Section Meetings also provide a great opportunity to network with fellow engineers in the area.

ABOUT THE MEETING: RFID technology is currently having a major impact on the way people interact with retail and manufacturing operations and it will have a much greater impact as the technology matures. It has the potential to drive major changes in the way all of us interact with systems that we use on a daily basis. There is also the potential of tremendous pay back and benefit from the proper implementation of this technology.

This presentation, by Dr. Al Scheide, P.E., will cover various aspects of passive RFID technology. System architecture and performance criteria will be discussed. Retail, industrial, and government applications will be addressed. Dr. Scheide will also discuss the impact of current and future application of RFID technology on the consumer. He will also address privacy concerns that have been raised by various groups monitoring the development of this technology.

ABOUT THE SPEAKER: Dr. Scheide has been consulting on the application of RFID technology for the past five years. He was a faculty member in the Department of Electrical and Computer Engineering at the University of Cincinnati for 16 years and Director of Engineering at Cincinnati Milacron for 18 years. He currently has his own consulting business.

This presentation promises to be very informative and will qualify attendees for one PDH for the Professional Engineers license renewal.

CHAIR'S MESSAGE

by Jim Everly, Section Chair

A sincere “thank you” goes out to Ray Miller for last month’s meeting of the IEEE Cincinnati Section which featured a tour of the University of Cincinnati’s Central Utility Plant. The plant was completed and put into commercial service in May 2004 and consists of two 12.5 megawatt combustion turbine generators which can operate on both natural gas and diesel fuel. Ray is currently the Superintendent of Utilities for U.C..

This month’s meeting features Dr. Al Scheide, a former full-time Professor of Electrical and Computer Engineering at the University of Cincinnati. Dr. Scheide will be giving a presentation on RFID entitled “RFID the Good, the Band, and the Ugly.” It has been a while since Al has given a presentation to the IEEE Cincinnati Section. The last time he gave a presentation the meeting was so crowded we barely had enough seats. Please get your reservations in early so we can appropriately plan for the larger than usual attendance. **The meeting is worth one PDH for Professional Engineers.**

The Cincinnati Section Executive Committee will be holding a meeting on the 19 of October. If you have concerns that you want the committee to address please get them to me early so that I can put them on the agenda. The committee is looking for new volunteers, so if you're interesting in getting involved in the operations of the Cincinnati Section, let me know.

Also, I am always interested in the elevation of Cincinnati Section members to the grade of IEEE Senior Member. Please contact me if you have an interest in upgrading your membership.

New Cincinnati Section Senior Members

The Cincinnati Section would like to congratulate our newest Senior Members,

Todd Legette, and Qing-An Zeng

whose upgrade applications were recently approved.

If you are interested in upgrading your membership to Senior Member, please contact any member of the Executive Committee. You can also see our PACE Chair, Brian Resnick, or any other member of the Executive Committee immediately following any Section Meeting.

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Ronald H. Ashbrock	Robert J. Graessle	David Maldonado Febus
Andrew J. Castelli	Eric J. Graham	Douglas Mujeye
Aaron C. Chandler	Joshua A. Hamilton	Suryanarayana V. Pendyala
Brian C. Clark	Bradley Hawkins	Arthur V. Radun
Casey A. Clark	Anthony L. Helton	Harold J. Vogel
Robert A. Dannemiller	Christopher S. Hill	James E. Wallace
Daniel L. Feller	Paul A. Kawka	Barbara S. Williams
Orelle R. Fogle	Ryan J. Kephart	Huaping Wu
Gerald C. Gannod	Hao Luan	Xiaoyu Yang
Markis L. Gardner	Eric MacKnight	

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Dick Reiman, Historian

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Wilmer L. Barrow

Sixty years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Wilmer L. Barrow on the analysis of nonlinear vacuum-tube circuits subjected to large signals. At the time he was teaching communications engineering at the Massachusetts Institute of Technology (MIT) and also was engaged in research at the Round Hill facility of MIT. During the 1930's, Barrow and his MIT students made important contributions to microwave engineering, especially in the investigation of waveguides and horn antennas. He was the author or coauthor of 14 technical papers published in the PROCEEDINGS during 1932-1940.

In his August 1934 paper, Barrow pointed out that there were numerous cases such as modulators and demodulators where nonlinear circuits had emerged as a "problem of fundamental importance." He explained that the theory of linear circuits with small signals applied was much more developed. He presented a method for nonlinear circuit analysis which involved the use of a trigonometric polynomial to approximate the current-voltage characteristic of a vacuum tube. He stated that this approach permitted the calculation of performance with "much less labor" than alternative methods. He included examples where he had used his method to determine harmonic distortion in amplifiers, modulators, and detectors. His basic equation was expressed in terms of a Bessel function series and he concluded that the method should be applicable to a wide range of problems.

Barrow was born in 1903 in Louisiana and graduated in electrical engineering from Louisiana State University in 1926. He earned the M.S. degree at MIT in 1929 and then was awarded a graduate fellowship which allowed him to study in Germany, where he received the Ph.D. degree from the Technische Hochschule in Munich in 1931. He then returned to MIT, where he taught until 1943. He contributed a classic paper on the "transmission of electromagnetic waves in hollow tubes of metal" to the PROCEEDINGS in October 1936. He and his graduate students published several more papers on waveguides, horn antennas, and cavity resonators prior to World War II. During the war, Barrow directed a radar school at MIT until he joined the Sperry Gyroscope Company as Research Director in 1943. He was appointed Vice-President in charge of research and

development in 1955 and remained with Sperry until he retired in 1970. He was awarded the Edison Medal by the IEEE in 1966 in recognition of his contributions to microwave engineering. He died in New Hampshire in 1975.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

IEEE NEWS

Study Exposes Weaknesses in Congress' Approach to High-Tech Immigration

WASHINGTON (27 September 2006) -- Legislation pending before Congress "would admit foreign computing and engineering (C&E) workers in numbers much greater than historical trends or casual assumptions about future employment levels," according to a recent study from Georgetown University, commissioned by IEEE-USA.

The August report from Georgetown's Institute for the Study of International Migration concluded that the estimated number of new high-tech visas available under the "Comprehensive Immigration Reform Act of 2006" (S.2611) over the next 10 years could be 1.88 million. The Bureau of Labor Statistics estimates the number of new C&E workers needed by our economy over the decade is 1.25 million.

Thus, Congress was considering authorizing enough high-skill visas to fill every C&E job created in the United States over the next decade and still have 630,000 visas left over.

"The report calls into question Congress' approach to high-skill immigration reform," IEEE-USA President Ralph W. Wyndrum Jr. said. "Its analysis provides needed context to the immigration numbers being discussed on Capitol Hill."

To view the report, go to <http://www12.georgetown.edu/sfs/isim/Publications/LindsayPubs/Lowell,%20C&E%20S2611%20projections%208-31-06.pdf>

IEEE-USA Cosponsors Convocation Encouraging State, Local Leadership to Strengthen U.S. Competitiveness

WASHINGTON (28 September 2006) -- IEEE-USA cosponsored a convocation today at the National Academies designed to strengthen U.S. competitiveness initiatives at the state and local level, with the theme, "Rising Above the Gathering Storm: Energizing and Employing Regions, States, and Cities for A Brighter Economic Future."

The convocation focused on key action areas identified in the 2005 report, "Rising Above the Gathering Storm: Energizing and Employing America for A Brighter Economic Future": K-12 science, technology, engineering and mathematics education; higher education; research; and innovation environment. See <http://www7.nationalacademies.org/gatheringstorm/>

IEEE-USA President Ralph W. Wyndrum Jr., President-Elect John Meredith and Vice President Russ Lefevre participated in the event.

Speakers included, among others, Sens. Lamar Alexander, (R-Tenn.), Jeff Bingaman (D-N.M.) and Kay Bailey Hutchison (R-Texas); Rep. Sherwood Boehlert (R-N.Y); Secretary of Labor Elaine Chao; and IEEE Fellow Norm Augustine, who chaired the "Rising Above the Gathering Storm" committee.

The committee's 20 recommendations serve as the basis for the Protecting America's Competitive Edge (PACE) bills that were introduced in Congress on 26 January 2006. Boehlert, chair of the House Science Committee, said today that Congress is likely to approve future "substantial increases" in funding for the National Science Foundation (NSF), the Department of Energy (DOE) Office of Science and the National Institute of Standards and Technology.

"Those three agencies are especially critical because they're not focused on advancing any single government mission, but rather on strengthening the nation's overall capacity in science and engineering through the support of basic research and, in the case of NSF and somewhat DOE, education," Boehlert said. "So those are the right agencies to concentrate on."

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

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Steve Olenick - Vice Chair	513-554-2059 (Office), 513-642-3220 (Fax), steveo@nsseng.com (E-mail)
Laurie Tappel - Treasurer	513-397-6383, laurie.tappel@cinbell.com (E-mail)
Ron Harbaugh - Secretary	513-769-3781, ron.harbaugh@ieee.org (E-mail)
Brian J. Resnick - Member-At-Large & PACE Chair	513-556-4244 (Office), 513-759-5367 (Fax), Brian.Resnick@ieee.org (E-mail)
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